

## Claims

1. A mobile receiver apparatus comprising:

a directivity variable antenna;

5        an antenna controller connected with the directivity variable antenna for conducting a control action to align the directivity with a desired direction; and

10        an optimum directivity calculator connected with the antenna controller for calculating from the current position of a mobile and its surrounding geographical features an optimum pattern of the directivity for improving the response to a desired broadcast signal.

2. A mobile receiver apparatus according to claim 1, wherein  
15        the antenna controller is arranged to conduct its control action over the directivity variable antenna in guard intervals which are assigned by an applicable digital broadcast system.

3. A mobile receiver apparatus according to claim 1,  
20        wherein the optimum directivity calculator comprises at least:

a directivity calculator;

a current position detector for detecting the current position of the mobile;

25        a broadcasting tower position retriever; and

a geographic data storage for storing the geographic

data about the current position;

wherein the directivity calculator calculates an optimum pattern of the directivity for improving the response to a desired broadcast signal from the positional relationship between the mobile and the broadcasting tower determined by a combination of the current position detector and the broadcast tower position retriever and the environment for broadcast signal reception estimated by a combination of the current position detector and the geographical data storage; and

wherein the antenna controller conducts the control action over the directivity variable antenna corresponding to the output of the directivity calculator.

4. A mobile receiver apparatus according to claim 1,

wherein the optimum directivity calculator comprises at least:

a directivity control data retriever;

a current position detector for detecting the current position of the mobile; and

a directivity control data storage for storing a directivity control data determined from the current position or the geographic data about the current position;

wherein the directivity control data retriever examines the current position of the mobile received from the current position detector to retrieve a corresponding directivity control data from the directivity control data storage; and

wherein the antenna controller conducts the control action over the directivity variable antenna.

5 5. A mobile receiver apparatus according to claim 4, wherein the directivity control data storage is connected with a broadcast signal receiver or communicator for receiving directivity control data via the broadcast signal receiver or communicator to update or modify the directivity control data assigned to the current position or the geographical features.

10

6. A mobile receiver apparatus according to claim 1, wherein the directivity variable antenna is connected at the output to the optimum directivity calculator; and wherein the optimum directivity calculator is arranged  
15 to calculate an optimum pattern of the directivity using an output of the directivity variable antenna.